RACE AND HEALTH DISPARITIES AMONG SENIORS IN URBAN AREAS

Antonio J. Trujillo, Ph.D.

University of Central Florida

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THREE FUNDAMENTAL QUESTIONS

- Are the racial disparities in health eliminated once one controls for observable individual characteristics included in the SABE database?
- What are the main sources of these racial disparities in health?
- Are differences in endowment equally important to the explanation of racial disparities in health among poor Black and White seniors compared to wealthy Black and White seniors?

TREATMENT AND CONTROL GROUPS

- Control includes those individuals who declared themselves as “White” while treatment includes those who declared “Black” and those who declared “Mulatto”.
- According to SABE data, in Sao Paulo 70.2% of the respondents are White, 8.2% Brown, 12.9% Mulatto, 3.9% Black, and 4.8% Others. (N=2,138).
- Race has been identified as an important risk factor that captures socio-economic, cultural, and biological characteristics that explain health.

DISENTAGLE RACIAL HEALTH DISPARITIES

- The health of a population is difficult to measure.
- Socio-economic differences have been reported as key factors but are not the sole factor.
- Other factors include biological, and factors associated with geographic marginalization, social context, access to medical care, quality of care, and racism.
- Racial disparities could be due to: (i) differences in observables, (ii) differences in marginal effect; and (iii) differences in unobservables.

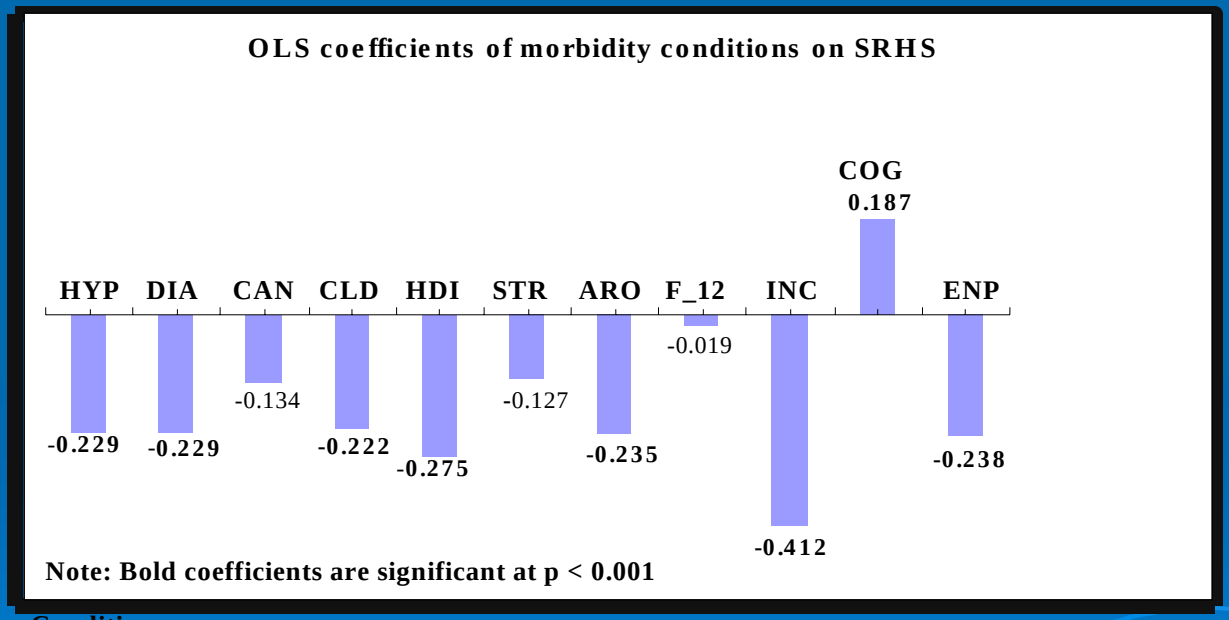
COMPARISON OF HEALTH AMONG WHITE AND BLACK SENIORS (I)

Health Indicators	Males (765)				Females (1,086)			
	White (n = 628)		Black (n = 137)		White (n = 894)		Black (n = 192)	
	Mean	Std err	Mean	Std err	Mean	Std err	Mean	Std err
Health functional status								
Self-reported Health Status	2.60	(0.05)	2.36	(0.07)	2.60	(0.04)	2.22	(0.07)
ADL index	7.64	(0.14)	7.21	(0.27)	6.35	(0.11)	6.21	(0.19)
IADL index	11.06	(0.12)	9.40	(0.26)	12.38	(0.10)	11.33	(0.24)
Life threatening conditions								
Hypertension	0.48	(0.02)	0.59	(0.05)	0.54	(0.02)	0.63	(0.04)
Diabetes	0.17	(0.02)	0.16	(0.04)	0.19	(0.02)	0.20	(0.03)
Cancer	0.04	(0.01)	0.02	(0.02)	0.04	(0.01)	0.02	(0.12)
Chronic Lung Disease	0.15	(0.02)	0.13	(0.03)	0.11	(0.01)	0.11	(0.03)
Heart Disease	0.22	(0.02)	0.19	(0.04)	0.20	(0.02)	0.20	(0.03)
Stroke	0.08	(0.01)	0.11	(0.03)	0.06	(0.01)	0.07	(0.02)

COMPARISON OF HEALTH AMONG WHITE AND BLACK SENIORS (CON'T)

Health Indicators	Males (765)				Females (1,086)			
	White (n = 628)		Black (n = 137)		White (n = 894)		Black (n = 192)	
	Mean	Std err	Mean	Std err	Mean	Std err	Mean	Std err
Disabling conditions								
Arthritis	0.22	(0.02)	0.14	(0.04)	0.41	(0.02)	0.37	(0.03)
Fall in the last 12 months	0.21	(0.02)	0.25	(0.04)	0.33	(0.02)	0.35	(0.03)
Incontinence	0.09	(0.01)	0.18	(0.03)	0.26	(0.01)	0.27	(0.04)
Cognitive scores	0.96	(0.01)	0.86	(0.04)	0.94	(0.01)	0.89	(0.02)
Psychiatric problem	0.13	(0.02)	0.19	(0.04)	0.18	(0.02)	0.20	(0.03)
Anthropometry measures								
Height (cms)	165.6	(0.34)	164.9	(1.16)	151.9	(0.26)	152.8	(0.42)
Weight (kgs)	70.10	(0.69)	69.30	(1.59)	64.20	(0.60)	63.10	(1.32)

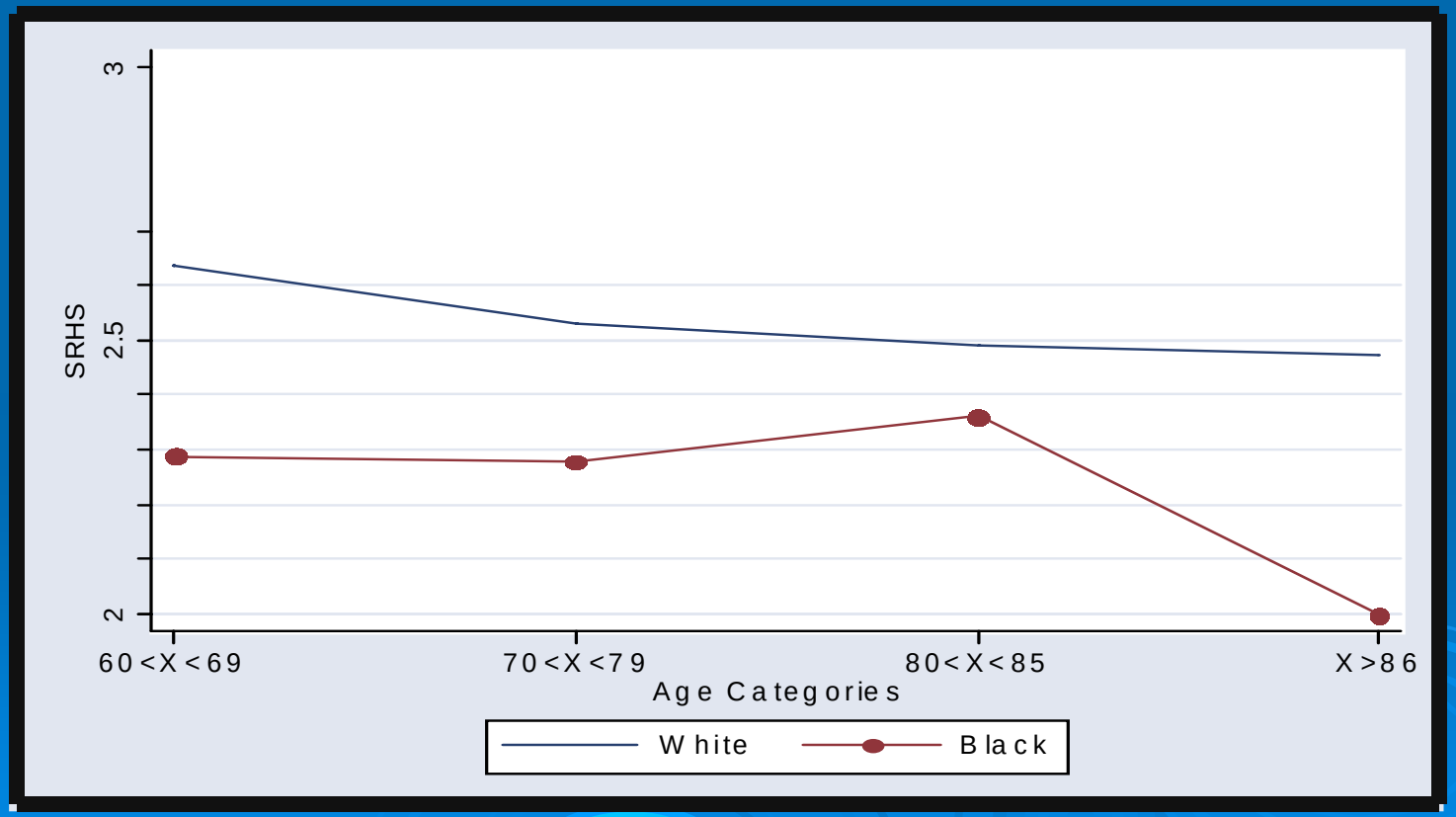
OLS COEFFICIENTS OF MORBIDITY CONDITIONS ON SRHS



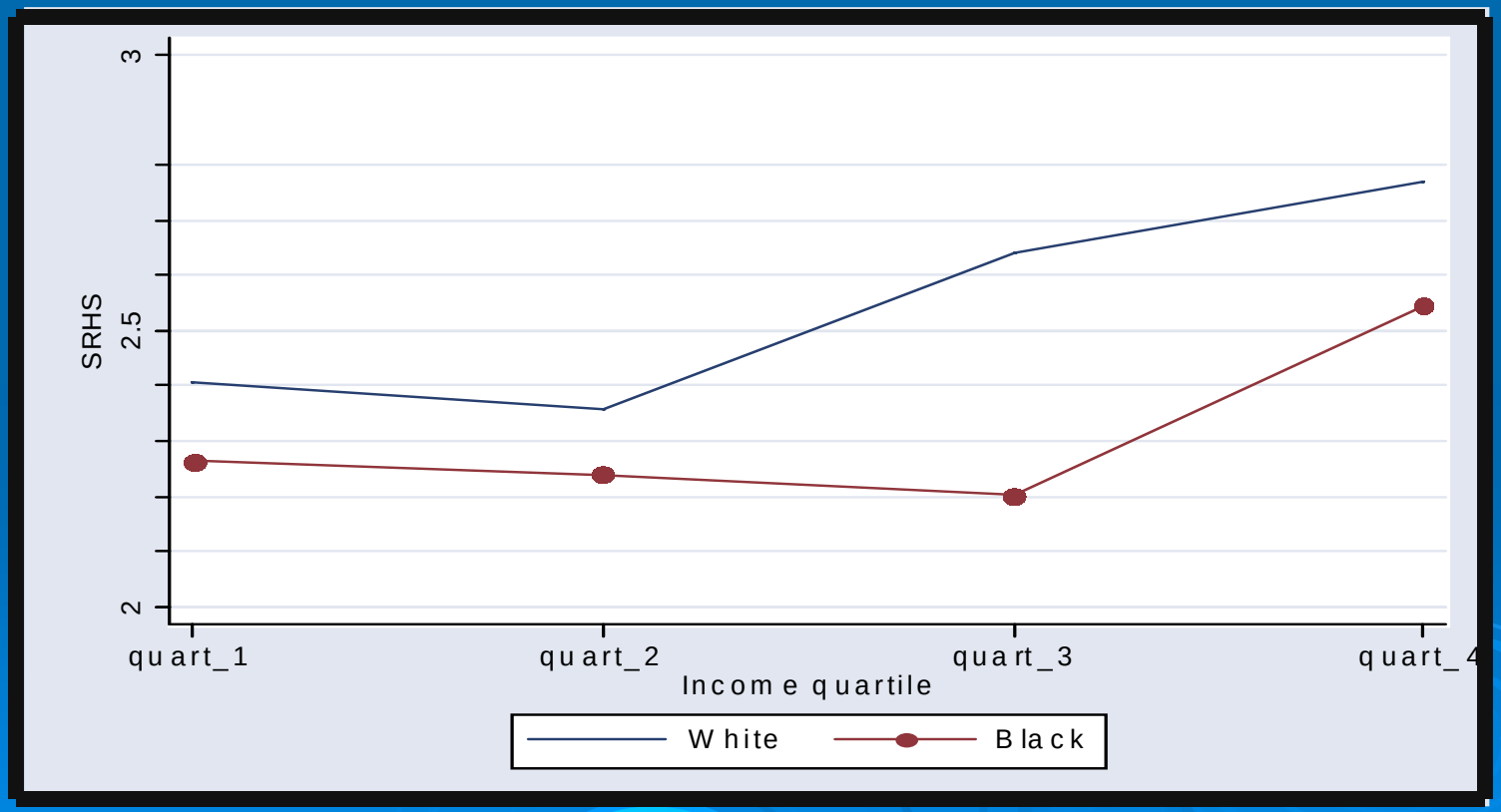
Conditions

HYP= Hypertension; DIA= Diabetes; CAN= Cancer; CLD= Chronic Lung Disease; HDI=Heart Disease; STR= Stroke; ARO=Arthritis, Rheumatism or Osteoarthritis; F_12= Fall in the last 12 months; INC= Incontinence; COG=Cognitive scores; ENP= Emotional, Nervous or Psychiatric problem.

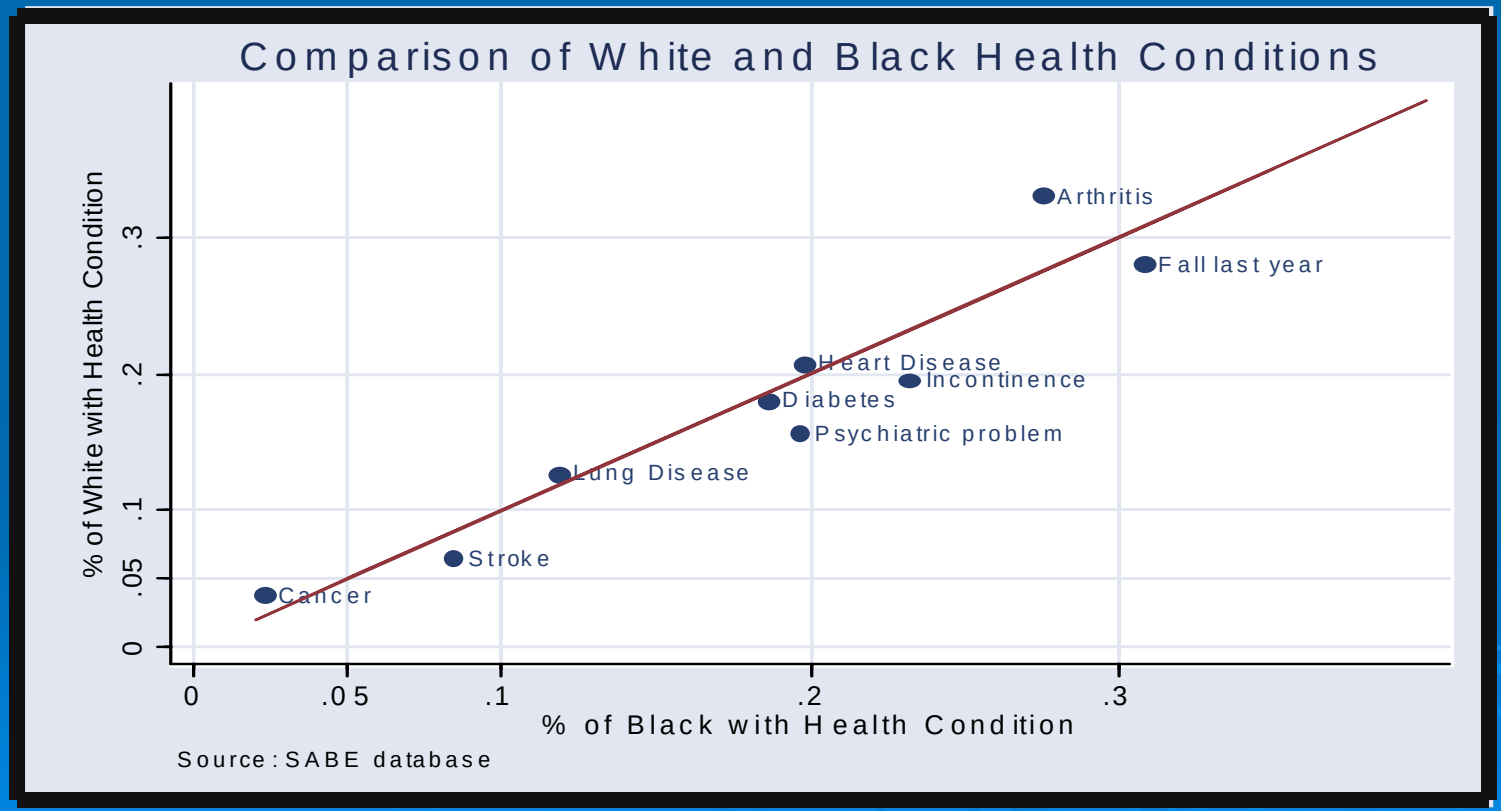
WHITE AND BLACK HEALTH DETERIORATION AMONG SENIORS



WHITE AND BLACK HEALTH AMONG SENIORS BY INCOME



COMPARISON OF WHITE AND BLACK HEALTH CONDITIONS



INCOME DIFFERENCES AMONG WHITE AND BLACK SENIORS

Income Groups	White (n = 1,520) (%)	Black (n = 331) (%)
Total Income		
Quartile 1	28.65%	29.86%
Quartile 2	17.81%	25.28%
Quartile 3	23.89%	29.17%
Quartile 4	29.65%	15.69%
Total Wealth		
Quartile 1	21.12%	33.71%
Quartile 2	23.76%	31.03%
Quartile 3	27.53%	24.89%
Quartile 4	27.58%	10.37%

HEALTH DIFFERENCES BY INCOME AMONG WHITE AND BLACK SENIORS

Income Groups	White (n=1,520)		Black (n=331)	
	Self-reported health		Self-reported health	
Total Income				
Quartile 1	2.435	(0.051)	2.324	(0.105)
Quartile 2	2.385	(0.050)	2.253	(0.078)
Quartile 3	2.682	(0.058)	2.174	(0.069)
Quartile 4	2.816	(0.054)	2.429	(0.109)
Total Wealth				
Quartile 1	2.419	(0.044)	2.121	(0.079)
Quartile 2	2.441	(0.054)	2.248	(0.061)
Quartile 3	2.685	(0.056)	2.376	(0.087)
Quartile 4	2.783	(0.069)	2.653	(0.159)

COMPARISON OF OTHER PERSONAL CHARACTERISTICS (I)

Variables	White (n = 1,520)		Black (n = 331)	
	Mean	Std err	Mean	Std err
Individual characteristics				
Age	69.65	(0.43)	67.88	(0.49)
Gender (Female)	0.58	(0.01)	0.59	(0.03)
Living alone	0.14	(0.01)	0.15	(0.02)
Total children alive	2.55	(0.08)	2.81	(0.10)
Currently married	0.58	(0.02)	0.51	(0.04)
Socio-Economic conditions				
Literacy	0.84	(0.02)	0.62	(0.03)
Education	1.38	(0.06)	1.06	(0.03)
Age of retirement	2.04	(0.04)	2.18	(0.09)
Home ownership	1.22	(0.02)	1.23	(0.04)
Vehicle ownership	0.49	(0.02)	0.32	(0.03)
Private health insurance	0.05	(0.01)	0.03	(0.01)

COMPARISON OF OTHER PERSONAL CHARACTERISTICS (CON'T)

Variables	White (n = 1,520)		Black (n = 331)	
	Mean	Std err	Mean	Std err
Family Support				
Number of household members	2.96	(0.07)	3.66	(0.17)
Number of siblings	2.98	(0.10)	3.36	(0.23)
Dependents on senior's income	2.29	(0.06)	2.68	(0.15)
Baseline health status (first 15 years one's life)				
Living in rural areas 5 yrs	0.56	(0.03)	0.75	(0.03)
Smoking	0.61	(0.02)	0.74	(0.04)
Family economic condition	1.02	(0.03)	0.91	(0.05)
Self-assessment of health	1.45	(0.02)	1.38	(0.05)
Starvation	0.18	(0.01)	0.27	(0.03)

CONCEPTUAL FRAMEWORK

- A health production function is used to study the determinants of racial disparities in health.
- Race is introduced as a latent variable where skin color is the common manifest indicator.
- Latent variable race is measured with error.
- Risk exposures, illness factors, and both cultural and societal norms affect health in ways that may coincide or conflict with race and manifest indicators.

ECONOMETRIC STRATEGY

- Two approaches are implemented: a multi-stage analysis with 6 scenarios, and the Oaxaca-Blinder decomposition.
- Three relevant econometric issues are addressed to obtain relevant estimates: (i) measurement error in the race variable controlling for individual's background; (ii) heteroscedasticity; (iii) specification test.
- Calculations of the proportion of racial disparities due to endowment, marginal effect, and differences in the constant of each model are done separately.

SOME RELEVANT FEATURES OF THE SABE DATASET

- Includes several indicators of health status and health conditions among seniors.
- In addition to self-reported race, it has information about an individual's country of origin.
- It includes relevant present and past information about individual demographic and socio-economic conditions.
- It contains proxies for available financial resources: total income, assets composition, and consumption.
- The data also allow one to control for differences in baseline health and in the condition of family support.

OLS ESTIMATES OF THE EFFECT OF RACE ON SRHS AMONG SENIORS

Vector Included	Self-reported health		
I) Only the skin variable included	-0.329	(0.048)	***
R_Squared	0.03		
II) Vector of individual characteristics	-0.305	(0.053)	***
R_Squared	0.04		
III) Vector of socio-economic conditions	-0.211	(0.046)	***
R_Squared	0.13		
IV) Vector of family support conditions	-0.282	(0.051)	***
R_Squared	0.05		
V) Vector of baseline health conditions	-0.239	(0.052)	***
R_Squared	0.08		
VI) All variables included	-0.164	(0.050)	***
R_Squared	0.15		

(**) significant at $p < 0.05$, (***) significant at $p<0.01$

O-B DECOMPOSITION OF THE DIFFERENCES IN HEALTH

Oaxaca-Blinder	Self-reported health
I) Differences due to all variables	14.6
II) Unexplained differences in health	15.8
a) Variation in coefficient	-114.9
b) Variation in constant	130.7
III) Total difference in health (I + II)	30.4
- Differences due to observables (I/III)	48.0%
- Unexplained differences (II/III)	52.0%

O-B DECOMPOSITION OF THE DIFFERENCES IN HEALTH BY INCOME

Oaxaca-Blinder	Upper Half (N=964)	Lower Half (N=887)
I) Differences due to all variables	12.2	14.1
II) Unexplained differences in health	32.2	-1.9
a) Variation in coefficient	-71.6	-113.3
b) Variation in constant	103.8	111.4
III) Total difference in health (I + II)	44.4	12.2
- Differences due to observables (I/III)	27.5%	115.6%
- Unexplained differences (II/III)	72.5%	-15.6%

CONCLUDING REMARKS

- Inequalities in health among races persist even after controlling for several covariates.
- Racial disparities in health are not only the result of variation in present socio-economic conditions, but also of living conditions during the first 15 years of one's life.
- Present economic conditions are more relevant to the explanation of racial disparities in heath among poor than among wealthy seniors.
- Unobservables are more relevant to explain racial inequalities in health among wealthy seniors.

POLICY IMPLICATIONS

- Improvement in geographic availability of care and quality of care among seniors of different races.
- Policy makers should address racial disparities directly. Better coordination will ensure that public services are provided to individuals of different races.
- Level of socio-economic conditions and inequality of these conditions are critical to reduce health disparities.
- Overall improvement of health and economic conditions may not eliminate racial disparities in health in old age.